Notice of Allowability	Application No. 09/894,858	Applicant(s) HARRIS ET AL.
	Examiner Albert W Paladini	Art Unit 2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *application filed on 6/27/01*.

2. ☒ The allowed claim(s) is/are *1-14*.

3. ☒ The drawings filed on *27 June 2001* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date *12/18/01*

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

Examiner's Amendment

1.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

On page 1, line 10, after NO., insert –09/894,857--.

On page 1, line 13, after NO., insert –09/894,862--.

On page 8, line 33, delete "28" and insert –28A--.

On page 9, line 1, delete "28-1" and insert –28B--.

On page 34, line 32, delete "28" and insert –28A--.

On page 37, line 18, delete "28-1" and insert –28B--.

On page 37, line 34, delete "28-1" and insert –28B--.

2.   Authorization for this examiner's amendment was given in a telephone interview

with the office of Mr. Chun-Pok Leung on December 2, 2004.

Reasons for Allowance

3.   The following is an examiner's statement of reasons for allowance:
        None of the references cited or the art searched disclose or teach alone or in

combination the object oriented system of modeling a microfluidic component of a

microfluidic circuit by providing the first symbol or first symbol layer with the first child

object, the second symbol or layer with the second child object, and forming the

microfluidic component symbol representing the first and second child objects as recited in claims 1 and 9.

None of the references cited or the art searched disclose or teach alone or in combination the computer system using an object oriented method placing the first symbol object comprising a first fluid channel of a microfluidic component, pacing a connecting fluid channel object on a channel layer, where the connecting fluid channel is used to connect two microfluidic components of a plurality of microfluidic components, and linking the fluid channel object to the connecting fluid channel as recited in claims 7, 10 and 11.

4.   Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Relevant Prior Art

5.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Malin (4965743) discloses a discrete event simulation tool, which uses hierarchical object oriented programming where the main object may be a physical object such as a pump, and the first level of children objects are components of the main object, and the second level of children objects can be the parameters or properties of the components such as fluid flow.

Malin (5732192) discloses a qualitative flow path modeling system in an object oriented environment where the user is able to model systems in which flows occur in several physical domains simultaneously (e.g., electrical and fluid). Flow topologies in the various domains may be partially or totally congruent, such as when heat is conducted across temperature gradients in a pipe by the fluid flowing through the pipe.

Dove (6078320) discloses a system for configuring a process control environment where a control studio object system is implemented using an object-oriented framework using concepts like class hierarchies, object states, and object behavior. An engineer might invoke a program, which has a controller read a fluid level from a level sensor in a tank.

Hoskins (6167406) discloses a system and method for building a simulation model using object-oriented programming where a direct connection between two elements signifies a parent/child relationship between two elements where the higher control-task in the tree is the parent and the lower control-task is the child. Where a parent/child relationship exists, the child control-task represents one fundamental characteristic of the parent control-task An example of the application of the methodology involves detection of the change of state of a conveyer speed which may be the result of fluid injection or the result of a machine failure.

Coburn (6618856) discloses a simulation method and system, which utilizes object orients programming where a machine tree is depicted by a direct connection between parent and child elements, and the highest element of the hierarchy is a major component and the lowest element of the hierarchy of child elements is the control task.
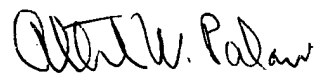
Dardinski (6754885) discloses a method and apparatus for configuring control systems, which utilizes placeholder objects, and addition to placeholder objects, the persistent document may contain connector graphics that depict relationships between configurable objects. In an apparatus used for configuring process control systems, such a graphic may indicate, for example, that one configurable object, e.g., representing an analog input block, is a source for another configurable object, e.g., representing a PID controller. Such connector graphics can represent peer-to-peer relationships (such as source/sink relationships), in addition to hierarchical relationships (such as parent/child relationships). An exemplary control process shows a process including a valve that governs the rate of fluid flow to an aeration tank, which, in turn, transfers the liquid to a storage tank. Field devices monitor the state of the process to facilitate its control by a process control system. A sensor is disposed in or adjacent to a tank for measuring the temperature of fluid therein, while another sensor measures the flow of fluid between tanks.

6.   Any inquiry concerning this communication or earlier communication from the examiner should be direct to Albert W. Paladini whose telephone number is (572) 272-3748. The examiner can normally be reached from 7:30 to 3:30 PM on Monday, Tuesday, Thursday, and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Leo P. Picard, can be reached on (572) 272-3749. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Albert W. Paladini
Primary Examiner
Art Unit 2125

December 2, 2004